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TABLE OF CONTENTS

SECTION TWO - PROPOSAL FORMS Baccalaureate Programs in Airway Science

		Page
PART I.	GENERAL INFORMATION	1-1
PART II.	AIRWAY SCIENCE CURRICULUM PROPOSAL	2-1
	CORE: - GENERAL STUDIES - MATH/SCIENCE/TECHNOLOGY - COMPUTER SCIENCE - MANAGEMENT - AVIATION - GENERAL ELECTIVES	2-1 2-2 2-3 2-4 2-5 2-6
	AOC:: - AIRWAY SCIENCE MANAGEMENT	. 2-8 . 2-9 . 2-10
PART III.	FORMS:	
	- SUMMARY OF COURSE OFFERINGS (SEQUENTIAL LISTING OF COURSES)	

TABLE OF CONTENTS

SECTION TWO - PROPOSAL FORMS Baccalaureate Programs in Airway Science

		Page
PART I.	GENERAL INFORMATION	1-1
PART II.	AIRWAY SCIENCE CURRICULUM PROPOSAL	2-1
	CORE: - GENERAL STUDIES - MATH/SCIENCE/TECHNOLOGY - COMPUTER SCIENCE - MANAGEMENT - AVIATION - GENERAL ELECTIVES	2-1 2-2 2-3 2-4 2-5 2-6
	AOC:: - AIRWAY SCIENCE MANAGEMENT	. 2-8 . 2-9 . 2-10
PART III.	FORMS:	
	- SUMMARY OF COURSE OFFERINGS (SEQUENTIAL LISTING OF COURSES)	

FEDERAL AVIATION ADMINISTRATION UNIVERSITY AVIATION ASSOCIATION AIRWAY SCIENCE CURRICULUM PROPOSAL

PART I. General Information

<u>Instructions</u>

Please check all applicable columns or blocks, and type or print the requested information in the spaces provided. If necessary, responses may be continued on a separate sheet of paper (for example, Page 1-2, item 3 continued).

NOTE: Please submit 2 current catalogs describing the institution's aviation/aerospace offering(s). This form and catalogs should be mailed to:

Federal Aviation Administration
Office of Training and Higher Education, AHT-30
Airway Science Curriculum Program
400 7th St., SW, Room PL-11 00
Washington, DC 20590

1.	PROPOSAL CLASSIFICATION (check all that apply)	() Initial (Specify) () Add area(s) of concentration (AOC)
2.	INSTITUTIONAL DATA	
	Official Name of Institution	
	Address (Street or P.O. . Box)	
	Location (City, State, Zip)	

FEDERAL AVIATION ADMINISTRATION UNIVERSITY AVIATION ASSOCIATION AIRWAY SCIENCE CURRICULUM PROPOSAL

PART I. General Information

<u>Instructions</u>

Please check all applicable columns or blocks, and type or print the requested information in the spaces provided. If necessary, responses may be continued on a separate sheet of paper (for example, Page 1-2, item 3 continued).

NOTE: Please submit 2 current catalogs describing the institution's aviation/aerospace offering(s). This form and catalogs should be mailed to:

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Washington, DC 20590

1.	PROPOSAL CLASSIFICATION (check all that apply)	() Initial (Specify) () Add area(s) of concentration (AOC)
2.	INSTITUTIONAL DATA	
	Official Name of Institution	
	Address (Street or P.O. . Box)	
	Location (City, State, Zip)	

3. EXISTING AVIATION PROGRAM

Enter the title, and check the applicable degree column(s). Indicate the page(s) in which each aviation offering is described in the institution's catalog.

* Degree Abbreviations: D = Doctorate A = Associate

M = Master's C = Certificate

B = Bachelor's 0 = Other

Title of Program	+ Degree Abbrew.	Page in Catalog	If certificate or other non- degree offering specify nature and level (e.g. certificate, etc.)

Proposal Correspondent		
Mailims, Address		
Salutation (check one)	() Dr. () Mr. () Mrs. () Miss () Ms.	
Position Title		
Office Telephome ()	()	
	Alternate	

Airway Science Areas of Concentration Offered

Indicate for each area of concentration (AOC) the identification of the degrees within the college or university under which the proposed Airway Science curriculum will be offered:

AIRWAY SCIENCE AOC ::	TYPE NAME OF DEGREE/MAJOR:
e.g., Aircraft Systems Management	Bachelor of Science in Professional Flight
Identification of Airway Science Stud	<u>lents</u>
	AOC be identified separately on college ts () Yes () No. If No, how will such

Other participating institutions://agencies (use additional sheets if needed)

Name of Institution or Agency	AOC	Nature of Participation

(If consortium or articulation agreement, include copy of proposed agreement.)

Airway Science Areas of Concentration Offered

Indicate for each area of concentration (AOC) the identification of the degrees within the college or university under which the proposed Airway Science curriculum will be offered:

AIRWAY SCIENCE AOC ::	TYPE NAME OF DEGREE/MAJOR:
e.g., Aircraft Systems Management	Bachelor of Science in Professional Flight
Identification of Airway Science Stud	<u>lents</u>
	AOC be identified separately on college ts () Yes () No. If No, how will such

Other participating institutions://agencies (use additional sheets if needed)

Name of Institution or Agency	AOC	Nature of Participation

(If consortium or articulation agreement, include copy of proposed agreement.)

Airway Science Areas of Concentration Offered

Indicate for each area of concentration (AOC) the identification of the degrees within the college or university under which the proposed Airway Science curriculum will be offered:

AIRWAY SCIENCE AOC ::	TYPE NAME OF DEGREE/MAJOR:
e.g., Aircraft Systems Management	Bachelor of Science in Professional Flight
Identification of Airway Science Stud	<u>lents</u>
	AOC be identified separately on college ts () Yes () No. If No, how will such

Other participating institutions://agencies (use additional sheets if needed)

Name of Institution or Agency	AOC	Nature of Participation

(If consortium or articulation agreement, include copy of proposed agreement.)

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AIRWAY SCIENCE CURRICULUM PROPOSAL

PART II.		
Institution		
CORE - GENERAL STUDIES (24-30 semester hours)		
General Studies		
English Composition	3	
Oral Communication	3	
Psychology	3	
Humanities and Social Science Electives	<u>15-211</u>	
Range of Credits	<u>24-30</u>	

This area includes coursework which teaches both oral and written communications skills. Specifically, written communication must include instruction in forms of expository writing. Oral communication skills shall include both formal and informal methods of verbal communication. In addition, coursework relevant to this area will include instruction in the following topics: (i) the social, cultural, political, and economic development of American and/or Western civilization; (ii) the study of human behavior; and (iii) the cultural aspects of knowledge such as philosophy, art, drama, music, literature, religion or language.

Notes:

- 1. Course listing by name is required; however, the actual course name may differ from the generic course name used.
- 2. If additional pages are needed, such as when more electives need to be listed or the course descriptions are too long for the space provided, continue the numbering format used herein with a further division or subdivision as necessary, e.g., 2-70t/(1).
- 3. See section 1 Curriculum Guidelines of the Curriculum Proposal package for other instructions and comments concerning the preparation of this Section.

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		Subtotal	hr					
Pg. 2-1	Original FAA Approved Proposal Date	* First	Revisi <u>on</u>	<u>Date</u>	** Second	Revision	Date	

PART II.

Institution		
Generic Curriculum Course Description CORE - GENERAL STUDIES (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
English Composition (3). Fundamentals of expository writing including grammar, sentence structure, punctuation, paragraphing, and organization and development of material as illustrated in selected readings.		
Oral Communications (3). Introduction to the basic principles of oral communication by means of formal and informal presentations. Development of research and speaking skills through composition and delivery. Stresses original thinking, effective organization of material and concise presentation of ideas.		
Psychology (3) on to the fundamental principles of psychology and the application of scientific method as it relates to the understanding of human behavior.		

		Subtotalhrs		
Pg. 2-1a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date	

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PART II.

Institution		
Generic Curriculum Course Description CORE - GENERAL STUDIES (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
English Composition (3). Fundamentals of expository writing including grammar, sentence structure, punctuation, paragraphing, and organization and development of material as illustrated in selected readings.		
Oral Communications (3). Introduction to the basic principles of oral communication by means of formal and informal presentations. Development of research and speaking skills through composition and delivery. Stresses original thinking, effective organization of material and concise presentation of ideas.		
Psychology (3) on to the fundamental principles of psychology and the application of scientific method as it relates to the understanding of human behavior.		

		Subtotalhrs		
Pg. 2-1a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date	

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PART II.

Institution		
Generic Curriculum Course Description CORE - GENERAL STUDIES (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
English Composition (3). Fundamentals of expository writing including grammar, sentence structure, punctuation, paragraphing, and organization and development of material as illustrated in selected readings.		
Oral Communications (3). Introduction to the basic principles of oral communication by means of formal and informal presentations. Development of research and speaking skills through composition and delivery. Stresses original thinking, effective organization of material and concise presentation of ideas.		
Psychology (3) on to the fundamental principles of psychology and the application of scientific method as it relates to the understanding of human behavior.		

		Subtotalhrs		
Pg. 2-1a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date	

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Institution		
Generic Curriculum Course Description CORE - GENERAL STUDIES (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Humanities and Social Science Electives (continued)		
Pg. 2-1d Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

Institution		
Generic Curriculum Course Description CORE - GENERAL STUDIES (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Humanities and Social Science Electives (continued)		
Pg. 2-1d Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

PART II.

Institution		
Generic Curriculum Course Description CORE - MATH/SCIENCE/TECH (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Chemistry (4). Introduction to the principles and theories of modern chemistry, including atomic structures, chemical bonding, formulas and equations, properties of solutions, gases, liquids and solids. Laboratory experience to demonstrate principles introduced in lectures. Required for: Airway Elect. Systems AOC Aviation Maint. Mgt. AOC		
Calculus II (3). A continuation of integral and differential calculus. Required for: Airway Computer Sc. AOC Airway Elect. System AOC		
Math Analysis (3). Analysis of applied mathematical principles and techniques; topics to include linear programming, curve-fitting, elementary probability and descriptive statistics, matrix theory and graphing, Required for: Airway Elect. Systems AOC		

Subtotal_____ hrs

Pg. 2-2b Original FAA Approved Proposal Date_____ * First Revision Date____ ** Second Revision Date_____

PART II.

Institution		
Generic Curriculum Course Description CORE - MATH/SCIENCE/TECH (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Electives (9-1 6). Chemistry, Calculus II and Math Analysis hours, if used, count as elective hours.		
Pg. 2-2c Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

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PART II.

Institution		
Generic Curriculum Course Description CORE - MATH/SCIENCE/TECH (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Electives (9-1 6). Chemistry, Calculus II and Math Analysis hours, if used, count as elective hours.		
Pg. 2-2c Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

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PART II.

Institution

Generic Curriculum Course Description CORE - COMPUTER SCIENCE (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
List the Computer Science courses and/or the equivalent coursework that meet the knowledge and skills required.		
Pg. 2-3a Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

PART II.

Institution

Generic Curriculum Course Description CORE - COMPUTER SCIENCE (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
List the Computer Science courses and/or the equivalent coursework that meet the knowledge and skills required.		
Pg. 2-3a Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

Institution		
Generic Curriculum Course Description CORE - MANAGEMENT (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Principles of Management (3). An introduction to the theories, techniques and concepts of management and its functions of planning, organizing, influencing, and controlling in solving management problems. Topics include the classical, behavioral, management science and systems approaches to managing.		
Organizational Behavior (3). Introduction to theoretical behavioral science concepts applied to the formal organizational structure. Exposes the student to a variety of responses for dealing with issues of human relations and management. Topics include individual and group behavior in organizations, group dynamics, solving communication problems, conflict, implementing change, perceptions, attitudes and motivation.		
Electives (3-6)		
	Subtotal bre	

		Subtotal hrs	
Pg. 2-4a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

PART II.

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Electives (3-6)		Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks	Explanation, Clarification & Justification (as necessary)
	<u>es</u> (3-6)		

Subtotal hrs

Pg. 2-4b Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

PART II.

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Electives (3-6)		Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks	Explanation, Clarification & Justification (as necessary)
	<u>es</u> (3-6)		

Subtotal hrs

Pg. 2-4b Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

PART II.

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Electives (3-6)		Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks	Explanation, Clarification & Justification (as necessary)
	<u>es</u> (3-6)		

Subtotal hrs

Pg. 2-4b Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

PART II.

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Generic Curriculum Course Description CORE - AVIATION (15 semester hours)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Introduction to Aviation (3). Presents an overview of aviation, enabling the student to gain an appreciation of the complexities of the field of aeronautics. Course content includes historical background, fundamentals of flight and aeronautical technology, aviation safety, regulations, the social and economic impact of aerospace and future developments.		
OR		
Private Pilot Course (3). Ground school instruction in preparation for the FAA Private Pilot written exam; ground instruction covers basic aerodynamics, FAA regulations, navigation, safety, weather		
Aviation Legislation (3). Emphasizes legal concepts concerning aviation as related to operations, contracts, insurance and liability, regulatory statutes and case law.		

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^o g. 2-5a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

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Institution	· · · · · · · · · · · · · · · · · · ·	
Generic Curriculum Course Description CORE - AVIATION (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Classification & Justification (as necessary)
Aviation Safety (3). Presentation and analysis of factors and procedures relating to aviation safety; techniques for accident prevention, development of safety programs, procedures used in accident investigation, the human factor (physiological and psychological), the effect of weather.		
Aviation Electives (6)		
Pg. 2-5b Original FAA Approved Proposal Date	Subtotal hrs First Revision Date	** Second Revision Date

Institution	· · · · · · · · · · · · · · · · · · ·	
Generic Curriculum Course Description CORE - AVIATION (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Classification & Justification (as necessary)
Aviation Safety (3). Presentation and analysis of factors and procedures relating to aviation safety; techniques for accident prevention, development of safety programs, procedures used in accident investigation, the human factor (physiological and psychological), the effect of weather.		
Aviation Electives (6)		
Pg. 2-5b Original FAA Approved Proposal Date	Subtotal hrs First Revision Date	** Second Revision Date

Institution	· · · · · · · · · · · · · · · · · · ·	
Generic Curriculum Course Description CORE - AVIATION (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Classification & Justification (as necessary)
Aviation Safety (3). Presentation and analysis of factors and procedures relating to aviation safety; techniques for accident prevention, development of safety programs, procedures used in accident investigation, the human factor (physiological and psychological), the effect of weather.		
Aviation Electives (6)		
Pg. 2-5b Original FAA Approved Proposal Date	Subtotal hrs First Revision Date	** Second Revision Date

Institution				
Generic Curriculum Course Description AIRWAY SCIENCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)		
Air Traffic Control System (3). A study of the National air traffic control system with emphasis on basic air traffic control procedures; the role of centers, approach control, towers, and flight service stations; communications, navigation procedures, radar operations, and facilities.				
Air Transportation (3) A survey of the historical development of the air transportation system covering facilities, impact of regulations, problems encountered in commercial air transportation, future requirements, airline operations, economics, and social implications.				

Airport Management (3). A comprehensive study of airport operations and management; includes analysis of the role of the airport manager in planning, finance and administration; public relations, social, political and environmental considerations; operational requirements and facility maintenance.		
g. 2-7a Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

Institution				
Generic Curriculum Course Description AIRWAY SCIENCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)		
Air Traffic Control System (3). A study of the National air traffic control system with emphasis on basic air traffic control procedures; the role of centers, approach control, towers, and flight service stations; communications, navigation procedures, radar operations, and facilities.				
Air Transportation (3) A survey of the historical development of the air transportation system covering facilities, impact of regulations, problems encountered in commercial air transportation, future requirements, airline operations, economics, and social implications.				

Airport Management (3). A comprehensive study of airport operations and management; includes analysis of the role of the airport manager in planning, finance and administration; public relations, social, political and environmental considerations; operational requirements and facility maintenance.		
g. 2-7a Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

PART II.

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Generic Curriculum Course Description AIRWAY SCIENCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Management Decision-Marking (3). Role of decision theory studies in the management decision-making and problem solving process; application of quantitative techniques, simulation, linear programming, game theory.		
Psychology &/or Human Behavior &/or Communications Electives (9-1 2) (upper division level only)		

Subtotal _____ hrs

Pg. 2-7/€ Original FAA Approved Proposal Date _____ * First Revision Date _____ ** Second Revision Date _____

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PART II.

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Generic Curriculum Course Description AIRWAY SCIENCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Management Decision-Marking (3). Role of decision theory studies in the management decision-making and problem solving process; application of quantitative techniques, simulation, linear programming, game theory.		
Psychology &/or Human Behavior &/or Communications Electives (9-1 2) (upper division level only)		

Subtotal _____ hrs

Pg. 2-7/€ Original FAA Approved Proposal Date _____ * First Revision Date _____ ** Second Revision Date _____

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nstitution		
Generic Curriculum Course Description AIRWAY SCIENCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number	Explanation, Clarification & Justification (as necessary)
Aviation Management or Business Management Electives (continued)		
Pa 2-7e Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date

PART II.		
Institution		
AIRWAY COMPUTER SCIENCE AOC (40 semester hours)		
Airway Computer Science	Semester Hours	
Computer Programming II	3	
Advanced Computer Programming	3	
Computer Operation Systems	3	
Assembly Language Programming	3	
Data Structures	3	
Computer Methods and Applications I	3	
Computer Methods and Applications II	3	
Theory of Programming Languages and C	omplex	
Construction	3	
Computer Architecture	3	
Computer Electives	<u>13</u>	
Minimum semester hours for AOC	<u>49</u>	
This concentration provides students with a knowledge of computer ha	ardware/software and operations,	preparing them to functio

in areas such as computer operations, software design, systems analysis and computer programming.

			
		Subtotalhrs	
Pg. 2-8	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

PART II.		
Institution		
AIRWAY COMPUTER SCIENCE AOC (40 semester hours)		
Airway Computer Science	Semester Hours	
Computer Programming II	3	
Advanced Computer Programming	3	
Computer Operation Systems	3	
Assembly Language Programming	3	
Data Structures	3	
Computer Methods and Applications I	3	
Computer Methods and Applications II	3	
Theory of Programming Languages and C	omplex	
Construction	3	
Computer Architecture	3	
Computer Electives	<u>13</u>	
Minimum semester hours for AOC	<u>49</u>	
This concentration provides students with a knowledge of computer ha	ardware/software and operations,	preparing them to functio

in areas such as computer operations, software design, systems analysis and computer programming.

			
		Subtotalhrs	
Pg. 2-8	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

PART II.

Institution		
Generic Curriculum Course Description AIRWAY COMPUTER SCIENCE AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Assembler Language Programmimg (3). Introduction to machine structure and organization using assembler language; machine representation of the number system, instruction sets, condition codes, registers, addressing, bit manipulation; programming applications in assembly.		
Data Structures (3). Fundamentals of information organization and concepts of data representation; arrays, stacks, queues, linked lists, trees, dynamic storage allocations, graphs, advanced sorting, searching and merging techniques, hashing, symbol tables.		
Computer Methods and Applications I (3). Presentation of methods and techniques for use in solving theoretical problems; topics may include simulation and optimization techniques involving linear programming models, Monte Carlo methods, regression analysis, numerical analysis, and other simulated problems.		

Pg. **2-8b** Original FAA Approved Proposal Date_____ * First Revision Date____ ** Second Revision Date_____

PART II.

Institution		
Generic Curriculum Course Description AIRWAY COMPUTER SCIENCE AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Computer Methods and Applications II (3). Advanced techniques involving application of the computer for solving complex problems; topics may include artificial intelligence, graphics generation, statistical models, advanced techniques in data base administration.		
Theory of Programming Languages and Complex Construction (3). Introduction to formal grammar and its relationship with the machine, analysis of language structure, comparison of high level languages, techniques for translation to machine code.		
Computer Architecture (3). Overview of organization and design of the computer, system components such as arithmetic and control units, memory, I/O and mass storage devices; system configuration and analysis, virtual addressing.		

		Subtotal hrs	
Pa. 2-8 €	Original FAA Approved Proposal Date	*First Revision Date	**Second Revision Date

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PART II.

Institution		
Generic Curriculum Course Description AIRWAY COMPUTER SCIENCE AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Computer Methods and Applications II (3). Advanced techniques involving application of the computer for solving complex problems; topics may include artificial intelligence, graphics generation, statistical models, advanced techniques in data base administration.		
Theory of Programming Languages and Complex Construction (3). Introduction to formal grammar and its relationship with the machine, analysis of language structure, comparison of high level languages, techniques for translation to machine code.		
Computer Architecture (3). Overview of organization and design of the computer, system components such as arithmetic and control units, memory, I/O and mass storage devices; system configuration and analysis, virtual addressing.		

		Subtotal hrs	
Pa. 2-8 €	Original FAA Approved Proposal Date	*First Revision Date	**Second Revision Date

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stitution		
Generic Curriculum Course Description AIRWAY COMPUTER SCIENCE AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Computer Electives (continued)		
Pg. 2-8e Original FAA Approved Proposal Date	Subtotal hrs # First Revision Date	** Second Revision Date

stitution		
Generic Curriculum Course Description AIRWAY COMPUTER SCIENCE AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Computer Electives (continued)		
Pg. 2-8e Original FAA Approved Proposal Date	Subtotal hrs # First Revision Date	** Second Revision Date

Institution		
Generic Curriculum Course Description AIRCRAFT SYSTEMS MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Private Pilot Flight (2). Flight instruction in preparation for FAA Private Pilot Certification exam includes required dual and solo to meet requirements of FAR Part 141		
Commercial Pilot Certification (5). Ground and flight instruction in preparation for the FAA Commercial Pilot written exam and Commercial Pilot certification; instruction emphasizes advanced aerodynamics, aircraft performance, precision maneuvers, extended cross country and night flight, relevant FAA regulations, introduction to advanced systems and transition to more sophisticated aircraft.		
Instrument Rating (5). Ground and flight instruction in preparation for the FAA Instrument written exam and completion of requirements for the FAA Instrument rating; concepts and practical experience related to instrument and weather flying, IFR procedures and FAA regulations, navigation by radio, and instrument approach.		

		Subtotal hrs		
Pg. 2-9a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date	

Institution		
Generic Curriculum Course Description AIRCRAFT SYSTEMS MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Private Pilot Flight (2). Flight instruction in preparation for FAA Private Pilot Certification exam includes required dual and solo to meet requirements of FAR Part 141		
Commercial Pilot Certification (5). Ground and flight instruction in preparation for the FAA Commercial Pilot written exam and Commercial Pilot certification; instruction emphasizes advanced aerodynamics, aircraft performance, precision maneuvers, extended cross country and night flight, relevant FAA regulations, introduction to advanced systems and transition to more sophisticated aircraft.		
Instrument Rating (5). Ground and flight instruction in preparation for the FAA Instrument written exam and completion of requirements for the FAA Instrument rating; concepts and practical experience related to instrument and weather flying, IFR procedures and FAA regulations, navigation by radio, and instrument approach.		

		Subtotal hrs		
Pg. 2-9a	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date	

Institution		
Generic Curriculum Course Description AIRCRAFT SYSTEMS MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy); Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Flight Instructor Airplane (5). Ground and flight instruction preparing the student for flight instructor certification; course includes flight instruction methodology, instructor responsibilities, and comprehensive coverage of flight maneuvers necessary for instructing private and commercial students. (Recommended upper division level)		
Flight Instructor Instrument (3). Covers ground and flight instruction necessary to complete requirements for a flight instructor instrument rating; includes presentation of methodology used in teaching instrument flight. (Recommended upper division level)		
Advanced Aerodynamics and Aircraft Performance (3). Advanced theories of flight and flight factors including airfoil shape, drag, velocity, lift and thrust, stability and control; advanced principles of performance including capabilities and limitations, performance design criteria, load factors, weight and balance charts, comparative analysis of aircraft, certification of aircraft. (Upper Division Only)		

certification of aircraft. (Upper Division Only)			Į
Pg. 2-9c Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date	-

Institution		
Generic Curriculum Course Description AIRCRAFT SYSTEMS MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy); Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Flight Instructor Airplane (5). Ground and flight instruction preparing the student for flight instructor certification; course includes flight instruction methodology, instructor responsibilities, and comprehensive coverage of flight maneuvers necessary for instructing private and commercial students. (Recommended upper division level)		
Flight Instructor Instrument (3). Covers ground and flight instruction necessary to complete requirements for a flight instructor instrument rating; includes presentation of methodology used in teaching instrument flight. (Recommended upper division level)		
Advanced Aerodynamics and Aircraft Performance (3). Advanced theories of flight and flight factors including airfoil shape, drag, velocity, lift and thrust, stability and control; advanced principles of performance including capabilities and limitations, performance design criteria, load factors, weight and balance charts, comparative analysis of aircraft, certification of aircraft. (Upper Division Only)		

certification of aircraft. (Upper Division Only)			Į
Pg. 2-9c Original FAA Approved Proposal Date	Subtotal hrs * First Revision Date	** Second Revision Date	-

nstitution		
Generic Curriculum Course Description AIRCRAFT SYSTEMS MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Aviation Electives (6). (Upper division level only)		
	Total Hours in this ACO_C- (min. of 40 sem. hrs. required)	
Pg. 2-9e Original FAA Approved Proposal Date_	Subtotal hrs * First Revision Date	** Second Revision Date

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	AIRWAY SCIENCE CURRICULUM	I PROPOSAL	
	PART II.		
Institution			
AIRWAY ELECTRONIC	SYSTEMS (40 semester hrs.)		
	Airway Electronic Systems	Semester Hours	
	Theory of Electronics	3	
	Microprocessor Theory and Application	3	
	Advanced Computer Programming	3	
	Solid State Devices	3	
	Integrated Circuits	3	
	Engineering Drawing	2	
	Electrical Circuits	3	
	Digital Logic Applications	3	
	Electronic and Power Principles	2	
	Electronics/Avionics Electives	<u>15</u>	
	Minimum semester hours for AOC	€9	
	esigned to provide students with knowledge of basic publeshooting, testing, and development of avionics		ry, preparing them to work

		Subtotal hrs	
Pg. 2-10	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

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	AIRWAY SCIENCE CURRICULUM	I PROPOSAL	
	PART II.		
Institution			
AIRWAY ELECTRONIC	SYSTEMS (40 semester hrs.)		
	Airway Electronic Systems	Semester Hours	
	Theory of Electronics	3	
	Microprocessor Theory and Application	3	
	Advanced Computer Programming	3	
	Solid State Devices	3	
	Integrated Circuits	3	
	Engineering Drawing	2	
	Electrical Circuits	3	
	Digital Logic Applications	3	
	Electronic and Power Principles	2	
	Electronics/Avionics Electives	<u>15</u>	
	Minimum semester hours for AOC	€9	
	esigned to provide students with knowledge of basic publeshooting, testing, and development of avionics		ry, preparing them to work

		Subtotal hrs	
Pg. 2-10	Original FAA Approved Proposal Date	* First Revision Date	** Second Revision Date

PART II.

Institution		
Generic Curriculum Course Description AIRWAY ELECTRONIC SYSTEMS AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Solid State Devices (3). Theory, construction and application of semiconductor devices; topics also include discussion of amplifiers, diodes, transistors and other solid state electronic devices.		
Integrated Circuits (3). Theory, design and operation of circuits consisting of active and passive components; analog and digital integrated circuits, operational amplifiers.		
Engineering Drawing (2). Technical drawing theory to include techniques of orthographic projection, drafting conventions, instrument use, dimensioning, sections, and layout and execution of working drawings and blue print reading. Introduction to standards manuals and documentation systems.		

Subtotal hrs

Pg. **2-IOb** Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

PART II.

Institution		
Generic Curriculum Course Description AIRWAY ELECTRONIC SYSTEMS AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Solid State Devices (3). Theory, construction and application of semiconductor devices; topics also include discussion of amplifiers, diodes, transistors and other solid state electronic devices.		
Integrated Circuits (3). Theory, design and operation of circuits consisting of active and passive components; analog and digital integrated circuits, operational amplifiers.		
Engineering Drawing (2). Technical drawing theory to include techniques of orthographic projection, drafting conventions, instrument use, dimensioning, sections, and layout and execution of working drawings and blue print reading. Introduction to standards manuals and documentation systems.		

Subtotal hrs

Pg. **2-IOb** Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

Generic Curriculum Course Description	Proposed Curriculum Course Description (Use Actual Catalog	Explanation, Clarification & Justification (as necessary)
AIRWAY ELECTRONIC SYSTEMS AOC (continued)	Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	
Electronics/Avionics Electives (15).		

Generic Curriculum Course Description	Proposed Curriculum Course Description (Use Actual Catalog	Explanation, Clarification & Justification (as necessary)
AIRWAY ELECTRONIC SYSTEMS AOC (continued)	Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	
Electronics/Avionics Electives (15).		

PART II.		
Institution		
AVIATION MAINTENANCE MANAGEMENT (40 semester hrs.))		
The curriculum must include all material to meet the minimum requ Airframe and Powerplant Curricula: specific details are contained in Airframe Curriculum Subjects; and, D - Powerplants Curriculum su	FAR Part 1147, Appendices B - General Curriculum Subjects; C -	
An example of the content for a typical approved curriculum is as	follows:	
Technical Drawing Aircraft Operations Aircraft Materials Propulsion	Propulsion Laboratory Structures Structures Laboratory Aircraft Systems Avionics/Electronics Systems	
A minimum of 40 semester hours is required for the AOC including	at least six hours of Upper Division Technical Electives.	
Note: Units not assigned above to permit maximum curriculum fle	xibility.	
The sponsoring institution must hold a valid FAR Part 147 Certific agreement with such a certified institution.	ate with appropriate ratings and/or have a contractual/articulation	
This concentration focuses on both theoretical and practical knowledge and repair, as well as the many relevant technical documentation newell hold the FAA Mechanic Certificate with Airframe and Powerplamaintenance.	nethods, specifications, and standards. Graduates of this program	
Subtotal Pg. 2-1 1 Original FAA Approved Proposal Date* Firs	hrs t Revision Date ** Second Revision Date	

PART II.		
Institution		
AVIATION MAINTENANCE MANAGEMENT (40 semester hrs.))		
The curriculum must include all material to meet the minimum requ Airframe and Powerplant Curricula: specific details are contained in Airframe Curriculum Subjects; and, D - Powerplants Curriculum su	FAR Part 1147, Appendices B - General Curriculum Subjects; C -	
An example of the content for a typical approved curriculum is as	follows:	
Technical Drawing Aircraft Operations Aircraft Materials Propulsion	Propulsion Laboratory Structures Structures Laboratory Aircraft Systems Avionics/Electronics Systems	
A minimum of 40 semester hours is required for the AOC including	at least six hours of Upper Division Technical Electives.	
Note: Units not assigned above to permit maximum curriculum fle	xibility.	
The sponsoring institution must hold a valid FAR Part 147 Certific agreement with such a certified institution.	ate with appropriate ratings and/or have a contractual/articulation	
This concentration focuses on both theoretical and practical knowledge and repair, as well as the many relevant technical documentation newell hold the FAA Mechanic Certificate with Airframe and Powerplamaintenance.	nethods, specifications, and standards. Graduates of this program	
Subtotal Pg. 2-1 1 Original FAA Approved Proposal Date* Firs	hrs t Revision Date ** Second Revision Date	

	PART II.	
Institution		
Generic Curriculum Course Description AVIATION MAINTENANCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Propulsion Laboratory. To include laboratory practice in the use of appropriate tools for the maintenance of aircraft propulsion systems, including propellers, measuring instruments, testing and repairing engines, inspection and overhaul of aircraft powerplants, relate systems and applicable FARs.		
Structures. Introduction to the mechanics and properties of airframe materials, familiarization with FAA requirements concerning aircraft structures and related systems. Procedures used in airframe and system inspection, maintenance, repair and overhaul, concepts of airworthiness and relevant FARs.		
Structures Laboratory. Practical laboratory experience in topics introduced in lectures, with emphasis on structural and system assembly, rigging, inspection and repair.		
S Pg. 2-11lb Original FAA Approved Proposal Date	subtotal hrs * First Revision Date	** Second Revision Date

	PART II.	
Institution		
Generic Curriculum Course Description AVIATION MAINTENANCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Propulsion Laboratory. To include laboratory practice in the use of appropriate tools for the maintenance of aircraft propulsion systems, including propellers, measuring instruments, testing and repairing engines, inspection and overhaul of aircraft powerplants, relate systems and applicable FARs.		
Structures. Introduction to the mechanics and properties of airframe materials, familiarization with FAA requirements concerning aircraft structures and related systems. Procedures used in airframe and system inspection, maintenance, repair and overhaul, concepts of airworthiness and relevant FARs.		
Structures Laboratory. Practical laboratory experience in topics introduced in lectures, with emphasis on structural and system assembly, rigging, inspection and repair.		
S Pg. 2-11lb Original FAA Approved Proposal Date	subtotal hrs * First Revision Date	** Second Revision Date

<u>PART II.</u>	

stitution		<u> </u>
Generic Curriculum Course Description AVIATION MAINTENANCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Technical Electives (continued).		
(upper division level only)		
	Total Hours in this ACCC- (min. of 40 sem. hrs. required.)	

Subtotal hrs

Pg, 2-1 Id Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

<u>PART II.</u>	

stitution		<u> </u>
Generic Curriculum Course Description AVIATION MAINTENANCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Technical Electives (continued).		
(upper division level only)		
	Total Hours in this ACCC- (min. of 40 sem. hrs. required.)	

Subtotal hrs

Pg, 2-1 Id Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

<u>PART II.</u>	

stitution		<u> </u>
Generic Curriculum Course Description AVIATION MAINTENANCE MANAGEMENT AOC (continued)	Proposed Curriculum Course Description (Use Actual Catalog Copy). Indicate revisions with an appropriate number of asterisks preceding the course number.	Explanation, Clarification & Justification (as necessary)
Technical Electives (continued).		
(upper division level only)		
	Total Hours in this ACCC- (min. of 40 sem. hrs. required.)	

Subtotal hrs

Pg, 2-1 Id Original FAA Approved Proposal Date *First Revision Date ** Second Revision Date

Math/Science/Technolog)

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Management	
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Math/Science/Technolog)

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Math/Science/Technolog)

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Airway Computer Science Area of Conce	<u>ntration</u>	
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Original FAA Approved Proposal Date		
Revision Date (Indicate course	e additions or cha	nges with asterisk)

Airway Computer Science Area of Conce	<u>ntration</u>	
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Original FAA Approved Proposal Date		
Revision Date (Indicate course	e additions or cha	nges with asterisk)

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Airway Electronic Systems Area of Concentration

Revision Date_____ (Indicate course additions or changes with asterisk)

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Original FAA Approved Propos	sal Date		

Airway Electronic Systems Area of Concentration

Revision Date_____ (Indicate course additions or changes with asterisk)

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Original FAA Approved Propos	sal Date		

Airway Electronic Systems Area of Concentration

Revision Date_____ (Indicate course additions or changes with asterisk)

Courses Changed (continued)

4.

 From
 To

 Course No. Hrs.
 Course No. Hrs.

4.

6.

5. 5.

6.

7. 7.

Revision date _____



Airway Science Curriculum Proposal

Baccalaureate Programs

Section Two January 1993